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The Paradoxical Bedrock Of Reality: Nullity And Infinitude

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ABSTRACT

There have long been two schools of thought regarding the basic makeup of reality: the first holds that reality is composed of an infinitely divisible substrate, while the second holds that reality is composed of irreducible discrete elements.In modern physics, this dichotomy has been reformulated, with the former now referred to as continuous reality and the latter more commonly known as discrete reality. In this work, it is argued that both positions are based on shaky conceptual underpinnings, which I refer to as the assumptions of "nullity" (a complete and absolute lack of substance) and "infinitude" (a substance that is divisible or extendable without limit). This paper demonstrates that appeals to nullity and infinitude are inherently paradoxical when viewed in relation to existence. I conclude by demonstrating how the aforementioned paradoxical forms arise most readily in theoretical physics, and how these paradoxical smears might be resolved through the introduction of a metatheoretical model.

1 *Introduction*

2 *Tripartite View of the self*

3 *Contentions Of The Urstoff*

4 *The Dual Paradoxes Of The Urstoff*

5 *The Adulteration*

6 *The Adulteration's Manifestations Within Physics*

7 *Metatheoretical basification*

8 *Conclusion*

GLOSSARY

Locution: The locution is utterance itself, the literal meaning of the words spoken or written. It is the basic act of saying something without considering the speaker's intentions or the potential effects on the listener or situation.

Illocution: Illocution refers to the intended meaning or purpose behind the utterance. It is the pragmatic force or intention that the speaker wants to convey through the utterance. For example, the utterance "It's raining outside" can have different illocutionary forces, such as a statement, a warning, or a suggestion, depending on the context and the speaker's intentions.

Perlocution: Perlocution is the actual effect or consequence that the utterance has on the listener or the situation. It is the result or impact that the speaker's words have on the thoughts, feelings, or actions of the listener or the external circumstances. For example, the utterance "It's raining outside" might cause the listener to grab an umbrella or decide to stay indoors, which would be the perlocutionary effect of the utterance.

Content: That which is given by the somato-locution; perception differentiated yet undefined.

Concept: That which is produced by the somat-illocution, formed from content born of the somato-locution or the adulteration.

Somato-Locution: Somato-Locution refers to locution when applied to the self instead of speech; in particular, somato-locution is perception itself.

Somat-illocution: Somat-illocution refers to illocution when applied to the self instead of speech. Somat-illocution refers particularly to the transformation of content—given by the somato-perlocution—into concepts.

Somato-perlocution: Somato-perlocution refers to perlocution applied to the self instead of speech; in particular, somato-perlocution is intent; with its verification being manifest in the somato-locution.

Nullity: That which is non-existent.

Infinitude: The quality or state of being unbounded in scale.

The Adulteration: A reality that is incommensurable with existence.

Bracketing: A process by which content is formed into concepts.

Amalgamation: A process by which concepts are combined and transformed to form new concepts.

Reflection: The storehouse of concepts.

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1. Introduction

All humans seem to possess a deep and natural curiosity about the construction of things. One could argue that this fundamental desire to comprehend the intricacies of our world serves as the origin of all human advancement. From this perspective, it could be argued that the logical conclusion of such curiosity would be to attain knowledge of the pure substrata of existence. Or, perhaps more accurately, to discern if mere substrata exists at all, or if reality is, to use a somewhat whimsical phrase, "turtles all the way down."

Throughout human history, this age-old question has appeared in many cultures and academic fields. Philosophers from Aristotle to modern metaphysicians have attempted to pinpoint basic categories of being, while the cosmological myths of many civilisations have wrestled with what sustains the world itself. This motivation has taken us from molecules to atoms to quarks in the empirical sciences, with each new finding posing new queries about that which is fundamental.

However, as our tools for investigation grow more sophisticated and our theories more abstract, we encounter the same dual resolutions. Either the substratum is, or is not, divisible. However, it is my view that this is a false dichotomy, one born of an essential misunderstanding of existence.

2. A Tripartite View of the self

For a study of the ever-present external, we must first analyse the ever-present internal, with that analysis taking the form of an investigation into the tripartite self. I am far from the first thinker to present a threefold form of the self; prior thinkers such as Plotinus ([1992]) and Freud ([1923]) come to mind. However, where my own view differs from that of prior thinkers is in its necessary genesis, namely perception. Yet, before looking at perception, we must first analyse speech.

In his posthumous work "How To Do Things With Words", J. L. Austin presents us with the speech act theory, a delineation of the process of speech and its understanding. Within this theory there are three core components: the locutionary act, that being the utterance itself, or the basic act of producing the sounds that compose the sentence; the illocutionary act, relating to the intent behind the words of the speaker (for example, the utterance "It's raining outside" can have different illocutionary forces, such as a statement, a warning, or a suggestion, depending on the context and the speaker's intentions); and the perlocutionary act, that being the action taken by the listener due to the words of the speaker (for example, the utterance "It's raining outside" might cause the listener to grab an umbrella or decide to stay indoors, which would be the perlocutionary effect of the utterance).

Though it may not be obvious at first glance, these three speech acts, when looked at from a particular angle, form a simulacrum of the self. If we reformulate speech and strip it of its delimitations as merely a heard act, and instead allow it to encompass the entirety of sensory reception, while also stating the two interlocutors in this engagement as oneself and external reality, the relationship becomes obvious. The world, or reality, "speaks" to us, and we receive that "speech" through our sensory reception, with each particular speech act representing an aspect of the tripartite self.

Locution, when thought of as an aspect of the self, can be seen as both the utterances of the existence and the reception of such sense data (as the two can be seen as one and the same, or unfalsifiably equiprimordial,) the differentiated yet undefined reception of sensory data. Illocution, when thought of as an aspect

of the self, undergoes a slight transformation, becoming the intention gleaned from said sensory reception, the "what is seen" and "what is heard," etc., produced from the senses. This aspect of the self can itself be delineated into three forms: bracketing, the process of creating concepts from the content of sense perception; amalgamation, the process of combining concepts to produce "new" conceptual blends; and reflection, the process by which said amalgamations and brackets are stored. Finally, perlocution, when thought of as an aspect of the self, can be seen as the attempts or manifest intentions invoked by concepts (here I do not say that the self-attributed form of perlocution is the action itself, as the instantiation of said action is merely a form of self-attributed locution).

For the following, I will refer to the self-attributed forms of the speech acts with the prefix "somato-" to distinguish them from their linguistic forms.

Here, one should know that in accepting the previously espoused formulation of the tripartite self, they must also understand the hierarchy presented herein. Somato-perlocution arises from somat-illocution, and somat-illocution arises from somato-locution, leaving somato-locution as the base necessary substrate for the existence of the self. Without somato-locution, there is no self.

Now that we have thoroughly examined our internality, we must once again look to our externality, and the problems therein.

3. Contentions Of The Urstoff

The German term 'Urstoff' ("Ur" meaning "original, primitive" and "Stoff" meaning "matter, substance") is most commonly associated with natural philosophy, referring to the fundamental, basic substance from which all matter is thought to be derived.

As I have said previously, there are two main views of the composition of the Urstoff that are espoused at present. The discrete view suggests that the most basic form of reality is composed of indivisible quanta; therefore, we can only divide matter or energy so far before encountering fundamental, irreducible Urstoff. The continuous view, by contrast, implies that the Urstoff is infinitely divisible, asserting that a point in space always separates every other point, ad infinitum. The problems present in these two conceptualizations of the Urstoff

lie in the necessary constituents from which they are built. These being nullity and infinitude.

For the discrete view of the Urstoff, if we presuppose that each discrete unit is differentiated from every other unit, then said differentiation must take the form of nullity. That is to say, there must be something between these units of Urstoff that is not in and of itself Urstoff. This substance must be nullity, because if it were to be something else, then there must also be something between that "something else" and the Urstoff. If we were to say that there is yet another substance between the "something else" and the Urstoff, this process would continue ad infinitum, effectively transforming the discrete view into that of the continuous.

When we look at the continuous view of the Urstoff, we find that it relies on infinitude in the same way that the discrete view relies on nullity. If we posit that the Urstoff is infinitely divisible, then we must also assert that it necessitates infinite divisibility. Here, the attribution of the necessity of infinitude is evident.

The problem of said constitutive parts—Nullity and Infinitude—arises as a paradox, a paradox manifest particularly when you look at said constitutive parts in conjunction with existence.

4. The Dual Paradoxes Of The Urstoff

The paradox mentioned in the prior section is presented in the following Syllogisms.

4.1 A Syllogism on the Paradox of Nullity

P1: There exists differentiation.

There exists differentiation of things, if one were to say that said differentiation is a mere illusion, then there still exists differentiation, even if only within said illusion.

P2: Differentiation necessitates nullity.

For there to be differentiation, there must exist absence: a place where nothing is. If such absence were to not exist, then all that was to be said to be differentiated must therefore be one, and therefore undifferentiated.

P3: Nullity cannot exist.

Nullity can be seen as non-existence. Non-existence cannot exist, as if non-existence were to exist, it would be existence.

C. The existence of nullity is paradoxical.

Since differentiation exists (P1) and requires nullity (P2), but nullity cannot exist (P3), the existence of nullity is inherently paradoxical.

4.2 A Syllogism on the Paradox of Infinitude

P1: There exists finitude.

1. Our comprehension of reality is based on the idea of differentiation which necessitates limits or boundaries. These boundaries are expressions of finitude, whether they are conceptual, physical, or quantified in terms of attributes. Such differentiations abound in the universe we see, from the difference between concepts to that of objects.

2. If everything were infinite in all respects, there could be no distinctions or boundaries. Some portion of limitation or finitude is implied by the very fact that we are able to recognise and differentiate between various aspects of reality. Since true infinitude would forbid any such distinctions, the existence of finitude can thus be demonstrated by the mere presence of even one instance of differentiation.

P2: Finitude and infinitude cannot exist simultaneously (and in the same respect).

1. If there exists finitude and also infinitude, then said finitude must exist within said infinitude, as if said finitude were to exist without or outside of said infinitude, then said infinitude would in fact be finite.

2. If said finitude exists within said infinitude, then it must exist somewhere, however such a somewhere must therefore be finite, as such a somewhere contains finitude.

3. If the prior is true, that would mean that infinitude is not infinite but finite, as any infinitude cannot be, even in part, anything other than infinite.

C: The existence of infinitude is paradoxical.

If we accept the existence of finitude (which is evident from observation) and the logical incompatibility of simultaneous finitude and infinitude, we are led to conclude that the existence of infinitude is paradoxical. It cannot coexist with the finitude we perceive, yet it cannot exist separately from it without contradicting its own definition.

4.3 The Critical Paradox

The prior paradox I refer to as the Superfluous Paradox. This paradox is by no means new; in fact, it might be one of the oldest of all known persisting paradoxes, dating back to the time of Zeno and Parmenides. I reference these two particular philosophers not merely because of their status as ancient thinkers, but mainly due to their contentions and solutions to this paradox.

Parmenides' ([5th century BCE], p. 1–3) philosophy is primarily known to us through his poem "On Nature," of which only fragments survive. In this work, he presents his ideas through a goddess who reveals to him the nature of reality. The goddess distinguishes between two paths of inquiry: the path of truth (aletheia) and the path of opinion (doxa). It is in the path of truth that Parmenides, or rather the goddess, lays out their most radical and influential ideas.

The goddess states:

> "Come now, I will tell thee—and do thou hearken to my saying and carry it away—the only two ways of search that can be thought of. The first, namely, that It is, and that it is impossible for it not to be, is the way of belief, for truth is its companion. The other, namely, that It is not, and that it must needs not be, that, I tell thee, is a path that none can learn of at all. For thou canst not know what is not—that is impossible—nor utter it; for it is the same thing that can be thought and that can be."

In this passage, and throughout much of his work, Parmenides rejects the concept of differentiation, offering a solution to the Superfluous Paradox. If we presuppose that differentiation does not in fact exist, and all is a whole without greater or lesser quality or qualia in any given region, then we are able to resolve one of the core premises of the Superfluous Paradox. When it comes to nullity, if differentiation does not exist, then nullity also need not exist, as nullity can be seen as the lack or paucity that brings about differentiation in things. When it comes to infinitude, if differentiation does not exist, then there need be no finitude; it is possible that only infinitude exists.

This view of non-differentiation does indeed solve the problem of the Superfluous Paradox; however, it unfortunately gives rise to a paradox even more detrimental to our understanding of the world and our being within it.

In the first section of this paper ("A Tripartite View of the Self"), I argue that there exists a hierarchy of the somato-speech acts: "Somato-perlocution arises from somat-illocution, and somat-illocution arises from somato-locution, leaving somato-locution as the base necessary substrate for the existence of the self. Without somato-locution, without the self." However, I also state that the composition of the somato-locution relies on differentiation, where I define the somato-speech act as "the differentiated yet undefined reception of sensory data." That is to say, if we hold the existence of this hierarchy as true, along with the necessity of differentiation for the existence of the somato-locution, then one must conclude that if Parmenides' non-differentiation is correct, we ourselves are logical impossibilities. The self cannot exist.

As such, we are left with two paradoxes. The Superfluous Paradox: if differentiation exists, then nullity and infinitude exist; such existence is paradoxical. And the Critical Paradox: if differentiation does not exist, then the self does not exist; such non-existence is paradoxical.

5. The Adulteration

The resolution to this issue begins with the refutation of what has been termed the "Critical Paradox," a notion which disregards the existence of the self. This paradox contends that without differentiation, the self cannot exist, a premise fundamentally flawed because the existence of the self is an essential axiom that, if denied, leads to incoherence. Now that we are left only with the

superfluous paradox in order to understand its existence, the concept of the adulteration must be invoked.

While the full extent of adulteration is beyond our grasp, it is plausible to identify at least two primary adulterated forms: nullity and infinitude. These forms are fundamentally opposed to our conventional view of existence, as they are in fact not existence at all, but adulterated forms. They are paradoxical, (the reason for such is stated prior.)

The adulteration is not merely a concept within existence but represents something entirely distinct and separate from it. Consequently, when the adulteration arises, it resists refutation and instead presents itself as paradoxical. This paradox stems from our attempt to unify the notions of common existence with those of discommon existence, leading to irreconcilable contradictions.

The adulteration, in its two aforementioned forms—nullity and infinitude—exists as innate ideas, as they cannot be gleaned through the somato-locution, since the somato-locution relies upon differentiation, as stated prior. That is not to say, however, that these two adulterated forms invalidate the somato-speech act hierarchy, as these adulterated forms can only be conceptualized when amalgamated with other non-adulterated concepts. For evidence as to why this is true, one must simply attempt to think of an infinite nothing; the mere attempt at stripping all color from a concept alone proves this to be impossible. This stands as evidence that the somato-locution is still prior in the hierarchy and that the two aforementioned adulterated forms are formed equiprimordially within any amalgamated concept within which they might find relevance.

Trying to form concepts using both existence and the adulteration as reference, however, would be akin to two people standing in different countries, each proclaiming contradictory weather conditions. Imagine one person standing in a snowy landscape in Siberia, declaring that it is snowing heavily, while the other stands in the sun-baked Sahara Desert, asserting that it is sunny and upwards of 40 degrees Celsius. At first glance, these proclamations appear to be in direct conflict with each other. However, the contradiction dissolves upon the realisation that these individuals are observing and reporting the weather from entirely disparate locations, each with its own unique climatic conditions and environmental contexts.

In this scenario, there is no genuine paradox because it is understood that the individuals are not attempting to describe the same reality, but rather distinct

realities shaped by their respective geographical contexts. The snowy Siberia and the scorching Sahara each present a valid, yet entirely different, experiential truths. Their descriptions are rooted in their specific environments, making their seemingly conflicting statements both true within their own contexts.

Similarly, the concepts of existence and adulteration can be viewed through this analogy. Existence represents the familiar, tangible reality we experience daily, characterised by differentiation, substance, and finite boundaries.

On the other hand, adulteration signifies a realm that has nothing at all to do with existence, beyond the fact that they are both realities. It encompasses notions like nullity and infinitude, which defy existence. These concepts are antithetical and irreconcilable within the same conceptual framework.

When one attempts to form concepts using both existence and adulteration as references, it is akin to trying to merge the experiences of the Siberian and Saharan observers into a single, cohesive weather report. Such an attempt inevitably leads to paradox because the foundational premises of existence and adulteration are mutually exclusive.

To achieve a clear understanding of the existence we interact with, one must either develop concepts that remain unamalgamated, as amalgamation invites reflection, and within this reflection, adulteration can be found; or ensure that one’s concepts are in line with existence through somato-locutionary empirical testing, (testing said concept practically.)

6. The Adulteration's Manifestations Within Physics

Though the problem, or paradoxical nature, of the adulteration is now made known, I must relate this largely philosophical work back to the scientific field to which it pertains, namely physics. The problems of the adulteration presents unique challenges for the realm of physics for two main reasons: inherent a-testability and adulteration-laden probing.

I have stated previously what I mean by the Urstoff and the bipartite conception of said Urstoff; however, it should also be known, if it is not already obvious, that this Urstoff is where the ideas of adulteration seem to arise most readily. Therefore, the fact that theoretical physics deals with the Urstoff more than any other scientific discipline means it also encounters the adulteration more than any other field.

This problem is compounded when we take into account the difficulty of testing such theories. The construction of a theory must always utilise, in some part, the somat-illocutionary process of amalgamation, while also utilising reflection, thereby allowing adulteration into the formation of the theory. This, in and of itself, is not a problem if the theory is able to be tested, but for cutting-edge theoretical physics, (such as String Theory and Loop Quantum gravity,) this is often not the case.

This makes the field, in particular, ripe for adulteration to take root within said theories. It is for this reason why I state that there is a problem within the field of theoretical physics, as un-tested theories, unlike within other fields, have a higher likelihood of being incorrect in a profoundly unobvious matter, as, as I stated previously "when the adulteration arises, it resists refutation and instead presents itself as paradoxical," however said paradoxical nature is only known when said theory is tested against existence, if such is not done, and said paradox is not unveiled, then, due to the adulterations inherently validity, said theories may be seen as sound, and very well may be sound, in the say way that the Siberian and Saharan observers single, cohesive weather report may be sound. However this problem is not without solution.

7. Metatheoretical basification

Throughout my studies and investigations into theoretical physics, the non-existence of one thing has always seemed particularly interesting to me: that is, the general lack of a metatheory; a theory for the creation of theories. On its surface the reason for this is obvious, generally speaking having reasoned and logically proceeding conjuncts is enough, and has proven previously to be enough for the success of prior theories within the field. However, it is my belief that the introduction of a metatheory to theoretical physics, taking into account the problems presented prior, will, I hope, be in some way helpful or additive to the field.

I refer to said constructed metatheory as basification, with said metatheory consisting of three main components, Strong Basification, Empirical Economy and Reasoned Conjunctions.

7.1 Strong basification

Strong basification denotes the state in which a theory is supported by strong evidence for its general elements or constituent parts. The point may be further clarified by a three-tier sorting system: 1) Strongly based theories: Those whose basic elements are strongly evidenced by empirical facts. For instance, one might argue that the Standard Model of particle physics is strongly based due to the large number of experimental confirmations its components received. 2) Weakly based theories: Such theories do have some empirical evidence for their components, but not as comprehensive or conclusive evidence as that available for strongly based theories. Certain aspects of dark matter theories might fall into this category. 3) Unbased theories: Those are theories whose constituents have no significant empirical support.

The purpose of this principle of strong basification is to place an emphasis on theory construction strongly based on observable phenomena as a counter measure to the potential of the adulteration.

7.2 Empirical economy

Empirical economy relates to the quantity of empirical data used in the construction of a theory, with the prescription of said axiom advocating for a minimum amount of data used in the creation of the theory and a maximum of data reserved for the testing of said theory. The attempt of such an axiom aims at striking the perfect balance between underfitting and overfitting, with such a balance leading to the highest explanatory power and generalizability. The principle is not concerned with the total quantity of available data, but with how that data is divided between construction and evaluation.

This axiom aims to increase the amount of empirical data present for the construction of a given theory, allowing for a reduction in the presence of adulterated concepts born from a-testability. (The idea is also largely a reformulation of the ideas espoused in Hitchcock, C. and Sober, E's work ‘Prediction Versus Accommodation and the Risk of Overfitting’ ([2004], p. 8))

7.3 Reasoned Conjunctions

Although this characteristic is already common in physics at all levels, it has a place in this metatheory with respect to theoretical physics. Reasoned conjunctions are logical and coherent relationships of the different claims or

elements within a theory. This principle will ensure that the several elements of a theory are not just arbitrary associations but make for a logically consistent and interconnected framework. The main reason for such an axiom is obvious and does not need to be dwelled on in this work.

8. Conclusion

This work has shown that the enduring division between continuous and discrete conceptions of reality is due to the paradoxical character of their underlying notions—nullity and infinitude—which, when viewed in the context of existence, show themselves as adulterated forms, an ontological category that is completely separate from existence. We resolved the Critical Paradox while maintaining the Superfluous Paradox as a sign of the existence of adulteration by establishing that differentiation is necessary for self-existence through the tripartite analysis of the self based on somato-locutionary act, and the somato-speech act hierarchy more generally. The crucial realisation comes from the idea of adulteration: the contradictory elements that defy standard logical treatment not because they represent genuine features of reality, but because they originate from a realm fundamentally separate from existence.

For theoretical physics, this recognition is particularly crucial, as the field's engagement with the Urstoff makes it especially susceptible to adulteration-laden theorizing. A methodical approach to prevent such adulterations is provided by the suggested metatheoretical framework of basification, which includes strong basification, empirical economy, and reasoned conjunctions. This could help theoretical physics overcome these long-standing paradoxical dead ends and arrive at a more cohesive understanding of reality; one lacking adulteration.

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